

SUBMARINE SHORE POWER CABLE SPECIFICATION

SCOPE:

This specification establishes requirements for procurement of Submarine shore power cables. These Shore power Cables are utilized to provide shore-to-ship and ship to ship electrical power. Electrical power is required on piers end at dry-dock for ships services, including hotel service (shore to ship Power). For temporary service, shore power cables connected to dock side power plant locations allow for subs and ships to utilize shore power. This power provided thru the shore power cables supply power to the vessels to minimize downtime of critical ships systems, improve overall system reliability, and simplify system maintenance.

ITEMS 0001:

250 Foot Cable Assembly of Enhanced THOF-500 (Three conductors, heat and oil resistant, flexible). Each cable must be terminated with a Viking connector at one end and a female Levitan connector at the opposite end. Cable assembly must be of flexible strand for easy bending and be formulated with a strong insulation for high abrasion resistance in wet environments. The Cable and connectors must have reinforced integral filled jackets to prevent wrinkling, corkscrewing and most importantly, water migration into the core. Each cable assembly must be outfitted with an extra heavy-duty jacket for added abrasion resistance.

ITEMS 0002:

150 Foot Cable Assembly of Enhanced THOF-500 (Three conductors, heat and oil resistant, flexible). Each cable must be terminated with a Viking connector at one end and a female Levitan connector at the opposite end. Cable assembly must be of flexible strand for easy bending and be formulated with a strong insulation for high abrasion resistance in wet environments. The Cable and connectors must have reinforced integral filled jackets to prevent wrinkling, corkscrewing and most importantly, water migration into the core. Each cable assembly must be outfitted with a extra heavy-duty jacket for added abrasion resistance.

ITEMS 0003:

15 Foot Cable Assembly of Enhanced THOF-500 (Three conductors, heat and oil resistant, flexible). Each cable must be terminated at one end with a Submarine 90 degree connector at one end and a male Levitan connector at the opposite end. Cable assembly must be of flexible strand for easy bending and be formulated with a strong insulation for high abrasion resistance in wet environments. The Cable and connectors must have reinforced integral filled jackets to prevent wrinkling, corkscrewing and most importantly, water migration into the core. Each cable assembly must be outfitted with a extra heavy-duty jacket for added abrasion resistance.

ITEMS 0004:

15 Foot Cable Assembly of Enhanced THOF-500 (Three conductors, heat and oil resistant, flexible). Each cable must be terminated at one end with a Submarine straight connector at one end and a male Levitan connector at the opposite end. Cable assembly must be of flexible strand for easy bending and be formulated with a strong insulation for high abrasion resistance in wet environments. The Cable and connectors must have reinforced integral filled jackets to prevent wrinkling, corkscrewing and most importantly, water migration into the core. Each cable assembly must be outfitted with a extra heavy-duty jacket for added abrasion resistance.

ITEMS 0005:

10,000 Feet Raw (480 volt) Cable Assembly of Enhanced THOF-500 (Three conductors, heat and oil resistant, flexible). Cable assembly must be of flexible strand for easy bending and be formulated with a strong insulation for high abrasion resistance in wet environments. The Cable must have reinforced integral filled jackets to prevent wrinkling, corkscrewing and most importantly, water migration into the core. Each cable assembly must be outfitted with a extra heavy-duty jacket for added abrasion resistance and put on reels not less than 500 continuous feet per reel.

PRESERVATION, PACKAGING, PACKING & MARKING REQUIREMENTS

The Cable assemblies to be furnished shall be preserved, packaged and packed in accordance with the contractor's standard practice in a manner to prevent corrosion, deterioration, and damage and to insure arrival at Point Loma, California (destination) in a satisfactory condition. All cable assemblies shall be marked in accordance with the contractor's standard practice.

DOCUMENTATION

The manufacturer shall provide the purchaser with certification that all cable assemblies have been tested and inspected as specified in accordance with MIL-C-24640 and MIL-C-24643. The manufacturer shall provide proof of these tests documented, in the format of a logbook, where details could be recorded of all tests carried out on the cables, including the connectors. All maintenance and repairs should be carried out in accordance with the manufacturer's guidelines. The manufacturer shall also provide a handling/storage/packing recommendation.

ITEM 0006

The contractor is responsible for the performance of all inspection and test requirements for all cables and connectors. ITEM 0006 shall consist of the test and inspection report detailing the results of all tests and inspections performed and all technical information records, serial numbers and age. The report can be developed in contractor's format. One copy of the Technical Data for each cable assembly shall be delivered with cable assembly and one additional copy of the Technical Data for each cable assembly shall be delivered to:

**Philadelphia Naval Business Center
Building 4, Code 971
Philadelphia, PA 19112-5083
Attn: Louis J. DiStefano
215-897-7868**

DELIVERY SCHEDULE

ITEM 0001	Quantity twenty (20)	45 DAO
ITEM 0002	Quantity twelve (12)	45 DAO
ITEM 0003	Quantity twenty four (24)	45 DAO
ITEM 0004	Quantity eight (8)	45 DAO
ITEM 0005	Quantity eight (1)	45 DAO

SHIPPING INSTRUCTIONS**ITEM 0001, 0002, 0003, 0004 and 0005**

Will be shipped to the following address:

**NAVAL BASE POINT LOMA
PORT OPERATIONS
BUILDING 551, KEPHART ROAD
SAN DIEGO, CA 92106-3521
ATTN: CW03 DAVE HANNA
619-437-3952**

SOURCE SELECTION CRITERIA

LOW COST/ TECHNICALLY ACCEPTABLE EVALUATION

a) The contract resulting from this solicitation will be awarded to that responsive technically acceptable proposal with the lowest evaluated estimated price.

b) Technical acceptability will be determined in accordance with the following based on information submitted in response to the provisions entitled "Technical Proposal". If a proposal is determined technically acceptable, the offeror must be technically acceptable in each category identified by the following evaluation factors:

- 1) CORPORATE EXPERIENCE**
- 2) CAPABILITIES**
- 3) PAST PERFORMANCE**

c) Technical Proposals:

Offerors shall provide technical proposals which enable the Government to make a fair and equitable evaluation and arrive at a sound determination as to whether or not the proposal will meet the Government's stated requirements. To this end, each technical proposal shall be as complete as to clearly and fully demonstrate that the prospective offeror has a thorough understanding of the requirements and has the valid and practical solutions for technical problems. Statements which paraphrase the specifications or attest that "standard procedures are adequate to demonstrate how it is proposed to comply with the requirements of this clause. As a minimum, the proposal must clearly provide the following:

1. Corporate Experience

A narrative shall be prepared describing the offeror's experience with major submarine shore power cable assembly type components similar to those assembled listed in scope of work. The offeror shall provide a minimum of three (3) contracts within the last five years, citing this experience. The offeror shall provide in a matrix format, the contract number, contract dollar value, period of performance, work description / scope of work, and the customer.

2. Capability:

A narrative shall be prepared which demonstrates the offeror's capability to provide the facilities to accomplish the required submarine shore power cable assembly type components with qualified personnel meeting the requirements identified under the scope of work. The offeror shall demonstrate facilities and equipments which possess the following capabilities:

- a. Capability of manufacturing shore power cable assemblies outfitted with Viking plug and Levitan connectors.
- b. Capabilities of testing the cable assemblies under this scope of work in accordance with MIL-C-24640 and MIL-C-24643.
- c. Written and approved capabilities of testing the cable assemblies for water immersion and high power transmission without failure.

3. Past Performance

a. The offeror shall provide a list of the last two (2) contracts or subcontracts completed during the last three (3) years and contracts currently in process. Contracts listed may include those entered into by the Government, agencies of state and local governments and commercial customers. Offerors shall include the following Information for each contract and sub-contract:

1. Name of customer
2. Contract number
3. Contract Type
4. Total contract value
5. Description of work
6. Contracting Officer/ Administrator and telephone number
7. Program Manager and telephone number

b. Each offeror will be evaluated on their performance under existing and prior contracts for similar products or services. Performance Information will be used for both responsibility determinations and as an evaluation factor.

(c) Exceptions:

Offerors are not encouraged to take exceptions to this solicitation; however any exceptions taken to the specifications or terms and conditions of this solicitation shall be explained in detail and set forth in a cover letter. Offerors shall identify the particular section, clause paragraph and page to which they are taking exception.

Shipboard Cable Specifications

MIL-C-24640

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In consideration of circuit density, weight, and size problems, the US Navy produced the MIL-C-24640 cable document. The cables covered by this specification are low smoke, flame resistant constructions, but they are significantly lighter in weight and smaller diameter than other commonly used shipboard cables. MIL-C-24640 cables are used to interconnect systems where weight and space savings are critical, however they are not direct replacement conversions.

Since the overall diameters have been reduced and electrical characteristics may have been changed, they should not be used to replace existing MIL-C-915 or MIL-C-24643 constructions unless a comprehensive electrical and physical system evaluation or redesign has been completed.

MIL-C-24640/1-18 utilize insulated conductors manufactured to MIL-W-81044/12 to which Rockbestos-Surprenant is a QPL manufacturer. Item call-outs containing "W" indicate a water blocked cable.

MIL-C-24640/19-24 contain conductors insulated with mica/Kapton®. These six slash sheets cover circuit integrity cable.

All cables are jacketed with low smoke, zero halogen irradiated polyolefin.

MIL-C-24643

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Due to concern about flammability, smoke, and toxicity, the US Navy introduced the MIL-C-24643 cable specification. Generally, this document provides low smoke, flame retardant cables that are approximately equivalent in size, weight, and electricals to many of the older MIL-C-915 constructions. It has been mandated that these newer cables must be used on all new constructions and major Navy ship modernization projects.

MIL-C-24643 covers many types of cable constructions and utilizes insulation systems of irradiated polyolefin, silicone, or EPR depending on slash sheet. All cables are jacketed with low smoke, zero halogen irradiated polyolefin.